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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,343	08/31/2006	Masaru Sasaki	295715US26PCT	9501

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EXAMINER	
MALEK, MALIHEH	

ART UNIT	PAPER NUMBER
2813	

NOTIFICATION DATE	DELIVERY MODE
09/16/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/591,343	SASAKI ET AL.	
	Examiner	Art Unit	
	MALIHEH MALEK	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7,8,10 and 11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7,8,10 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08/31/2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/02/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to the after-final filed on 08/02/2010. Applicant amended claims 1, 7 and 11 to include features from previously presented claims 12 and 13.

Withdrawal of Finality

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action, filed on 04/01/2010, is persuasive and, therefore, the finality of that action is withdrawn.

Claim Objections

2. Claims 1, 7 and 11 are objected to because of the following informalities:

- In claims 1, 7 and 11, the recitation "*a flow rate ratio (H_2 gas flow rate/O_2 gas flow rate) of the H_2 gas to the O_2 gas*" is suggested to be replaced with either "*a flow rate ratio of the H_2 gas to the O_2 gas*" or "*H_2 gas flow rate/O_2 gas flow rate*".
- In claim 7, lines 1-3, the preamble is ambiguous. It is suggested to replace the recitation "*a method for plasma oxidation of a film of silicon of a semiconductor substrate on which the film mainly formed of the tungsten and the film of the silicon are formed*" with "*a method for plasma oxidation of a film of silicon of a semiconductor substrate, on*

which a film mainly formed of ~~the~~ tungsten is formed on the film of ~~the~~ silicon ~~are formed~~".

- In claim 7, line 4, it is suggested to replace the recitation "*the silicon*" to "*~~the~~ silicon*".
- In claim 7, line 9, it is suggested to replace the recitation "*the tungsten*" to "*~~the~~ tungsten*".
- In claim 11, line 6, it is suggested to replace the recitation "*a H_2*" to "*~~a~~ the H_2*".

Appropriate correction is required.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 7 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 8, 17, 31 & 41-43 of U.S. application No. 11/573586 in view of further remarks. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding claim 1, the following elements of the claim 1 of the instant application are identical to the claim 1 of application No. 11/573586:

A method for manufacturing a prescribed semiconductor device by forming a film mainly formed of tungsten and a film of silicon on a semiconductor substrate, comprising: forming a first layer, which is formed of the film of the silicon, on the semiconductor substrate; forming a second layer, which is formed of the film mainly formed of the tungsten, on the semiconductor substrate (claim 1, lines 1-4, and claim 8 of application No. 11/573586); and selectively forming an oxide film on an exposed surface of the first layer by plasma processing (claim 1, lines 5, 10-11, of application No. 11/573586) at a process temperature of 300°C or more (claim 1, lines 9-10, of application No. 11/573586) using a process gas hydrogen consisting of Ar, O_2 gas, and H_2 gas at a flow rate ratio (H_2 gas flow / O_2 gas flow rate) of the gas to the gas of 2 or more and 4 or less so as not to form the oxide film on an exposed surface of the second layer (claim 1, lines 6-9, and claim 31 of application No. 11/573586).

Claim 1 of application No. 11/573586, in lines 6-9, teaches "*a process gas consisting essentially of Ar gas, H_2 gas, and O_2 gas, inside a process chamber that accommodates the substrate, while supplying the process gas with a flow*

rate ratio of the H_2 gas relative to the O_2 gas set at a value of 4 to 20 into the process chamber," and does not expressly teach the range of "2 or more and 4 or less" for the H_2 gas flow / O_2 gas flow rate. However, in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (The prior art taught carbon monoxide concentrations of "about 1-5%" while the claim was limited to "more than 5%." The court held that "about 1-5%" allowed for concentrations slightly above 5% thus the ranges overlapped.); In re Geisler, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997), see MPEP 2144.05.

Regarding claims 7 and 11, applicant is referred to the rejection applied to claim 1 above.

5. Similarly, claims 1, 7 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7, 10, 30, 38-43 & 45 of U.S. application No. 11/202276 in view of further remarks. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding claim 1, the following elements of the claim 1 of the instant application are identical to the claim 7 of application No. 11/202276:

A method for manufacturing a prescribed semiconductor device by forming a film mainly formed of tungsten and a film of silicon on a semiconductor substrate, comprising: forming a first layer, which is formed of the film of the silicon, on the semiconductor substrate; forming a second layer, which is formed of the film mainly formed of the tungsten, on the semiconductor substrate (claim 7, lines 1-5, of application No. 11/202276); and selectively forming an oxide film on an exposed surface of the first layer by plasma processing (claim 7, lines 7-8, 13-14 of application No. 11/202276) at a process temperature of 300°C or more (claim 41 of application No. 11/202276) using a process gas hydrogen consisting of Ar, O_2 gas, and H_2 gas at a flow rate ratio (H_2 gas flow / O_2 gas flow rate) of the gas to the gas of 2 or more and 4 or less so as not to form the oxide film on an exposed surface of the second layer (claim 7, lines 9-19, of application No. 11/202276).

Claim 7 of application No. 11/202276, in line 19, teaches "*a flow rate ratio of the H_2 / O_2 is 1 or greater,*" and does not expressly teach the range of "2 or more and 4 or less" for the H_2 gas flow / O_2 gas flow rate. However, in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (The prior art taught carbon monoxide concentrations of "about 1-5%" while the claim was limited to "more than 5%." The court held that "about 1-5%" allowed for concentrations slightly above 5% thus the ranges overlapped.); In re

Geisler, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997), see MPEP 2144.05.

Regarding claims 7 and 11, applicant is referred to the rejection applied to claim 1 above.

Response to Arguments

6. Applicant's arguments with respect to claims 1-3, 7-8 & 10-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MALIHEH MALEK whose telephone number is (571)270-1874. The examiner can normally be reached on Mon-Fri, 8:30-6pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Landau can be reached on (571)272-1731. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 3, 2010

/M. M./
Examiner, Art Unit 2813

/W. David Coleman/
Primary Examiner, Art Unit 2823